

संदर्भ सं./Ref. No.: S&E/E/43C-1/588

दिनांक/Date: 28.05.2024

<b>From</b>	:	Executive Director (HSE & ESG)
<b>To</b>	:	Deputy Director General of Forests (Central), Sub Office, Guwahati (under Regional Office, Shillong), 4th Floor, Housefed Building, Rukminigaon, Guwahati-781022. (Email : <a href="mailto:iro.guwahati-mefcc@gov.in">iro.guwahati-mefcc@gov.in</a> , <a href="mailto:iro.moefcc.ghy@gmail.com">iro.moefcc.ghy@gmail.com</a> )
<b>Subject</b>	:	Submission of Half-yearly (October 2023 to March 2024) compliance reports of the conditions stipulated in the Environment Clearance (EC) granted to Oil India Limited.

Sir,


Reference to above subject, please find enclosed herewith the Half-yearly (**October 2023 to March 2024**) compliance reports of the conditions stipulated in the Environment Clearance (EC) granted to Oil India Limited. List of the EC are tabulated below:

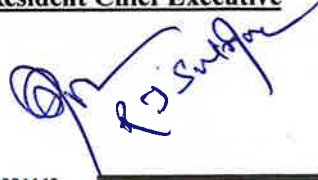
S.No	EC Identification No/File No.	Name of the EC proposal
1.	F. No. J-11011/413/2008-IA II (I) dated 24.01.2011	OCS Bhogpara.
2.	F. No. J-11011/1251/2007-IA II (I) dated 01.11.2011	Exploratory Drilling of 01 (One) well at Doomdooma-Pengry Area, District Tinsukia, Assam.
3.	F. No. J-11011/682/2008-IA II (I) dated 17.06.2013	Expansion of Gas field Development in Tengakhat-Naharkatia-Jorajan area and Doomdooma Pengry area, Assam by M/s Oil India Ltd.
4.	F. No. J-11011/116/2018-IA II (I) dated 07.01.2020	Onshore Oil & Gas Exploration & Development Drilling and Production in Ningru Oil & Gas Field in Districts Changlang and Namsai for Ningru PML Block (Arunachal Pradesh)
5.	F. No. J-11011/1260/2007-IA II (I) dated 09.04.2020	Onshore Oil & Gas Development Drilling and Production in Mechaki Area covering Mechaki, Mechaki Extension, Baghjan and Tinsukia Extension PMLs on District Tinsukia (Assam).
6.	F. No. J-11011/150/2016- IA II (I) dated 11.05.2020	Extension Drilling & Testing of Hydrocarbons at 7 (seven) Locations under Dibru-Saikhowa National Park Area, North-West of Baghjan PML, District Tinsukia, Assam.
7.	F. No. J-11011/1253/2007-IA II (I) dated 28.12.2020	Onshore Oil & Gas development drilling and production by M/S Oil India Ltd in Dibrugarh district under Dibrugarh, Chabua, Higrijan and Tinsukia PMLs. (Dibrugarh- Bhogpara)
8.	F. No. J-11011/375/2016-IA II (I) dated 28.12.2020	Onshore Oil & Gas Development Drilling and Production (179 wells and 9 Production

		Installations) in North Hapjan – Tinsukia – Dhola area under Tinsukia district, Assam.
9.	F. No. J-11011/35/2018-IA II (I) dated 26.02.2021	Onshore Oil & Gas development drilling and production by M/S Oil India Ltd. Located in Khagorijan Oil & Gas Field in Dibrugarh & Tinsukia District under Tinsukia PML, Tinsukia Extension PML and Chabua PML District: Dibrugarh, Assam
10.	F. No. J-11011/186/2016-IA II (I) dated 03.03.2021	Onshore Oil & Gas development drilling and production in Borhat-Titlagarh area, Dibrugarh, Sibsagar and Charaideo Districts under Sapkaintb, Borhat, Moran Extension and Doomdooma PMLs.
11.	EC22A002AS110311 F. No. J-11011/156/2017-IA II (I) dated 28.11.2022	Oil & Gas development drilling and production (16 exploratory, 73 developmental drilling wells and 9 Production Installations) in Moran Area under Dibrugarh, Sibsagar and Charaideo districts, Assam.
12.	EC23A002AS125690 F. No. J-11011/1254/2007-IA II (I) dated 13.01.2023	Oil & Gas development drilling and production (68 developmental drilling wells and 9 Production Installations) in Khowang Shalmari Area under Dibrugarh, Sibsagar districts, Assam.
13.	EC23A002AS188131 F.No J-11011/1257/2007- IA II (I) dated 17.04.2023	Onshore Oil & Gas development drilling and production (167 wells and 7 production Installations) in Tengakhat-Kathaloni-Dikom (TKD) under Dibrugarh district, Assam.
14.	EC23A002AS198872 F. No. J-11011/388/2016-IA II (I) dated 31.07.2023	Onshore Oil & Gas development drilling (67 wells) in Jorajan Area under Dibrugarh, Charaideo and Tinsukia districts, Assam.
15.	EC23A002AS146942 F.No. J-11011/546/2017-IA(I) dated 20.09.2023	Onshore Oil & Gas development drilling and production (294 wells and 2 Production Installations) in Naharkatiya-Deohal-Bogapani-Nagajan (NDBN) area under Dibrugarh & Tinsukia districts, Assam.

This is for your kind information please.

Thanking you.

  
(Rajendra Singh Garbyal)  
Executive Director (HSE & ESG)  
Nodal Officer (EC, FC, NBWL)  
For Resident Chief Executive





**HSE Department**  
Oil India Limited  
Duliajan, Dibrugarh, 786602, Assam  
Phone : 0374-2800542  
Email: [safety@oilindia.in](mailto:safety@oilindia.in)

Encl: As above

Copy:

1. Director, Monitoring Cell, MoEF, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.
2. Zonal Office, Central Pollution Control Board, "TUM-SIR", Lower Motinagar, Near Fire Brigade Headquarter, Shillong-793014.
3. Chairman, Assam Pollution Control Board, Bamunimaidan, Guwahati-781021, Assam.
4. Chairman, Arunachal Pradesh State Pollution Control Board, Office of the Principal Chief and Secretary (E&F) Conservator of Forests, Govt. of Arunachal Pradesh, Itanagar-791111, Arunachal Pradesh.

- **Name of the Project:** Onshore Oil and Gas Development Drilling and Production involving Onshore drilling of additional wells, Production facilities and laying of assorted oil & gas flowlines/delivery lines by M/s. OIL INDIA LIMITED in District Tinsukia, Assam.
- **Clearance L. No and date:** IA-J-11011/375/2016-IA II (I) Dated 28th December, 2020.
- **Period of Compliance Report:** October 2023 to March 2024.

Sl. No.	EC Condition	Compliance status
1	Project Proponent reported that in Baghjan Well suddenly became very active and has resulted into a blowout at around 10.30 AM 27.05.2020. Consequence upon incident of blowout and subsequence fire, various Govt. Authorities have constituted committees to enquire into the cause of the Blowout. Oil is yet to receive committee's report, except the Report of Oil Industry Safety Directorate (OISD). Hon'ble HC in PIL No. 93/2020 (Gautam Uzir) has directed the Committee constituted by Govt. of Assam and MoPNG as well as OIL India Ltd. To submit their respective reports before the court in sealed cover as the Court was of the opinion that the findings of these Committee's may be overlapping. OIL shall implement recommendations of the Committees.	<p><b>Complied</b></p> <p>OIL has implemented the recommendations of the committees constituted post Baghjan blowout such as Bioremediation of the affected area, plantation of 50,000 saplings in the Baghjan #5 plinth using Akira Miyawaki method. Also, OIL is carrying out video surveillance of the Baghjan#5 area using CCTV.</p> <p>Also, OIL will comply with the recommendations of the nine-member committee formed vide NGT order dated 10.03.2023.</p>
2	The Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, as may be applicable to this project.	<b>Agreed</b>
3	The environmental clearance is a subject to obtaining prior clearance from the wildlife angle, including clearance from the Standing Committee of the National Board for Wildlife, as applicable. Grant of environmental clearance does not necessarily imply that Wildlife Clearance. Grant of environmental clearance does not necessarily imply that wildlife clearance shall be granted to the project and that their proposals for Wildlife Clearance will be considered by the respective authorities on their merits and decision taken.	<p><b>Complied</b></p> <p>No drilling activity is carried out within 10 Km from boundary of National Park/ Wildlife Sanctuary</p>
4	The environment clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention And Control of	<p><b>Complied</b></p> <p>Consent To Establish (CTE) and Consent To Operate (CTO) were obtained before commencement of drilling/production activities.</p>

	Pollution) Act, 1981 as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.	
5	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	<b>Complied</b> All the environmental protection measures proposed in the EIA – EMP are being implemented.
6	The activities and the action plan proposed by the project proponent to address the public hearing and socio-economic issues in the study area shall be completed as per the schedule presented before the committee and as described in the EMP report in letter and spirit. All the commitments made during public hearing shall be satisfactorily implemented.	<b>Complied</b> All the commitments made during Public Hearing are being implemented. Details of the CER are enclosed as <b>Annexure – I</b> .
7	No pipeline or its part shall be laid in the Forest land/Protected Area without prior permission/approval from the Competent Authority.	<b>Complied.</b> No pipeline is laid in the Forest land/ National Park without prior approval of Competent Authority
8	Forest Clearance/Wild Life Clearance/ ESZ Clearance shall be obtained from the concerned regulatory authority, if applicable to the project. Drilling in the forest area and area beneath it shall not be carried out without prior permission.	<b>Complied.</b> Forest Clearance/ Wildlife Clearance will be obtained if drilling is carried out in the forest land or 10 Km from the boundary of National Park/ Wildlife Sanctuary.
9	As proposed by the project proponent, Zero Liquid Discharged shall be ensured and no waste/treated water shall be discharged to any surface water body, sea and/or on land. Mobile ETP along with RO plant shall be installed to treat the wastewater.	<b>Complied.</b> Zero Liquid Discharge will be maintained at the drilling locations. Mobile ETP coupled with RO is installed to treat the wastewater.
10	During exploration, production, storage and handling, the fugitive emissions of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.	<b>Complied</b> Portable Multi- gas detector & Explosimeter are used to detect fugitive emissions of Methane (if any).
11	The project proponent also to ensure trapping/storing of the CO <sub>2</sub> generated, if any, using the process and handling.	<b>Will be Complied</b> CO <sub>2</sub> generated (if any) will be trapped/stored.
12	Approach road shall be made pucca to minimize generation of suspended dust.	<b>Complied</b> Approach road to the drilling locations and Production Installations are made pucca to minimize generation of suspended dust.
13	The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosures shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.	<b>Complied</b> Regular maintenance of equipment/ machinery is being carried out to minimize noise generation. DG sets are provided with acoustic enclosures and adequate Stack Height as per CPCB guidelines.



14	Total fresh water requirement shall not exceed 40 cum/day/well proposed to be met through tanks. Mobile ETP shall be installed to treat the waste water and efforts shall be made for gradual reduction in daily intake of water (to reduce fresh water foot print) by suitable mechanism or by putting RO facility in place coupled with onsite mobile ETP. Size of the waste shall be equal to the hole volume+ volume of drill cutting and volume of discarded mud if any. Two feet free board may be left to accommodate rain water. There shall be separate storm water channel and rain water shall not be allowed to mix with waste water. Alternatively, if possible pit less drilling be practiced instead of above.	<b>Complied</b>  Total freshwater water requirement is within the permitted limit. Mobile ETP coupled with RO is installed to treat effluent generated from drilling location. Storm water is not allowed to mix with wastewater. Test report of the ETP treated effluent from Loc. BHC is enclosed as <b>Annexure – II</b> .
15	The company shall construct the garland drain to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated.	<b>Complied</b> Garland drains are constructed around the drilling location to prevent runoff any oil containing waste into the nearby water bodies. Separate drainage system is created for oil contaminated and non- oil contaminated.
16	Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to HWMH Rules, 2016. No effluent/drilling mud shall comply with the guidelines for disposal of soiled waste; drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546 (E) dated 30 <sup>th</sup> August, 2005.	<b>Complied</b> Drill cuttings separated from drilling fluid are adequately washed and disposed in HDPE lined pit. No effluent/ drilling mud is discharged/disposed off into nearby surface water bodies. OIL has sent the drilling cuttings samples, drilling fluid samples to CSIR – NEIST, Jorhat for analysis. once the reports are received, they will be submitted to Sub-RO (MoEF&CC). Guwahati. Toxicity test report of waste drilling mud is enclosed as <b>Annexure – III</b> .
17	Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/ contamination, action plan shall be prepared to clean the site by adopting proven technology. The recycles waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.	<b>Complied</b> In case of Oil spillage/ contamination, action will be taken as per the Oil spill contingency plan prepared by OIL. Recyclable waste (oily sludge) and spent oil is sent to Pollution Control Board, Assam authorized recyclers.
18	The proponent shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At fixed installations or plants use of ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.	<b>Complied</b> Fixed firefighting system is installed at drilling locations and in case of any oil spillage, necessary remediation actions will be taken as per the Oil Spill Contingency Plan.
19	The project proponent shall develop a contingency plan for H <sub>2</sub> S release including all	<b>Complied</b> Contingency Plan for H <sub>2</sub> S release is

	necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H <sub>2</sub> S detectors in locations of high risk of exposure along with self-containing breathing apparatus.	in place. OIL never encountered H <sub>2</sub> S and no such evidence exists in our field of operation. However, multi-gas detector and Self Containing Breathing Apparatus (SCBA) will be kept available to meet the emergency situation, if any.
20	Blowout Preventer system shall be installed to prevent well blowout during drilling operations.	<b>Complied</b> Blow Out Preventer (BOP) system is installed to prevent blowouts during drilling operations.
21	On completion of the project, necessary measures shall be taken for safe plugging of wells with secured enclosures to restore the drilling site to the original condition. The same shall be confirmed by the concerned regulatory authority from environment safety angle. In case of hydrocarbon not found economically viable, a full abandonment plan shall be implemented for the drilling site in accordance with the applicable DGH/Indian Petroleum Regulations.	<b>Will be Complied</b> On completion of the drilling activity, plugging of abandoned wells will be carried out as per the OIL's Well Abandonment, Site Restoration and Reclamation policy.
22	No lead acid batteries shall be utilized in the project/site.	<b>Will be Complied</b> No lead acid batteries are utilized at the drilling location.
23	Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and rules. All workers & employees shall be provided with required safety kits/mask for personal protection.	<b>Complied</b> Occupational Health Surveillance of workers engaged in drilling operation is being carried out on regular basis. All workers & employees engaged in drilling operation will be provided with Personal Protective Equipment (PPE). Records of the IME & PME are enclosed as <b>Annexure – IV</b> .
24	Oil content in the drill cuttings shall be monitored and report & shall sent to the Ministry's Regional Office.	<b>Will be complied.</b> OIL has sent the drilling cuttings samples to CSIR – NEIST, Jorhat for analysis. Once the reports are received, they will be submitted to Sub-RO (MoEF&CC), Guwahati.
25	The project proponent shall prepare operating manual in respect of all activities, which would cover all Safety & Environment related issues and measures to be taken for protection. One set of environment manual shall be made available at the drilling site/project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office. Remote monitoring of site should be done.	<b>Complied</b> SOPs for all the operations covering safety and environment related issues are prepared. OIL has prepared Environmental manual which will be made available at the drilling location. Copy of the same is enclosed <b>Annexure – B</b> . Also, all the environmental monitoring reports related to ambient air quality, Stack Gas monitoring, ETP effluent, Noise level will be maintained at the drilling location.

**General Conditions:**

Sl. No.	EC Condition	Compliance status
1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of Ministry of Environment, Forest and Climate Change/ SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	<b>Complied.</b> No further expansion or modification other than mentioned in the EIA Notification, 2006 and its amendments, will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.
2	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	<b>Complied.</b> LED lights are utilized for lighting purpose in drilling locations
3	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (Night time)	<b>Complied.</b> Noise level at the drilling locations is kept within the permissible limits by providing acoustic enclosures around the DG sets.
4	The company shall undertake all relevant measures for improving the socioeconomic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	<b>Complied.</b> Details of the CER expenditure incurred by OIL is enclosed as <b>Annexure – I.</b>
5	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	<b>Complied</b> OIL has earmarked funds for environment management/ pollution control measures.
6	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban local body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	<b>Complied</b>
7	The project proponent shall also submit six monthly reports on the status of compliance of the	<b>Complied</b> EC compliance report for the period



	stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF & CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.	October 2022 to March 2023 was submitted to IRO - Guwahati, Zonal Office CPCB, Shillong and, Chairman - Pollution Control Board Assam vide L.No. S&E/E/43C-1/561 dated 29.05.2023. Also, copy of the EC and Six-monthly compliance report are uploaded to OIL website under the link <a href="https://www.oil-india.com/Environmental.aspx">https://www.oil-india.com/Environmental.aspx</a>
8	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF & CC by e-mail.	<b>Complied</b> Environment Statement (Form – V) for the F.Y. 2022-23 was submitted to Pollution Control Board, Assam vide No. S&E/E/21(B)/940 dated 20.09.2023. Copy of the same is enclosed as <b>Annexure – C</b> .
9	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <a href="https://parivesh.nic.in/">https://parivesh.nic.in/</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	<b>Complied</b> Advertisement regarding grant of EC was published in two newspapers i.e. Dainik Janambhumi and The Assam Tribune dated 01.01.2021. Copy of the advertisement enclosed as <b>Annexure – VI</b> .
10	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	<b>Will be complied.</b>
11	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT any other Court of Law, if any, as may be applicable to this project.	<b>Agreed.</b>

## **Annexure - I**

<b>CER expenditure in Crores during F.Y. 2020-21 to F.Y. 2023-24</b>								
<b>District</b>	<b>Health Care</b>	<b>Education</b>	<b>Plantation</b>	<b>Skill development of women</b>	<b>Industrial Training for students</b>	<b>Sports &amp; Cultural events</b>	<b>Social Development/Infrastructure (Drinking Water, Toilets, Road repair, Flood Protection/Erosion control etc.,)</b>	<b>Total</b>
<b>Tinsukia (Assam)</b>	11.99	15.32	9.38	4.14	3.03	1.80	49.28	<b>94.94</b>



Report No.: ENV/ARDS/23-24/V-01/WW-03/01  
Date : 16/03/2024

Order No.: Telecon  
Date :

Report Issued To : **ADITI R & D SERVICES**  
Nilesh Buisness Complex, A. T. Road, Digboi, Assam

### TEST RESULTS

Sample Ref. No. : ARDS/2024/V-01/0703/01      Sample Source : Rig V#1/BHC, Makum      Sample Type : ETP Treated Water (RO)  
Collected On : 07-03-2024      Received On : 07-03-2024      Collected By : ETP Supervisor, ARDS

Sl. No.	Parameters	Results	Limit [G.S.R. 176(E), 02.04.1996]
24	Colour	Colourless	Colourless
25	Odour	Odourless	Odourless
26	pH value	7.25	5.5 – 9.0
27	Temperature, °C	25.6	40 °C
28	TSS, mg/l	4.4	100
29	BOD, mg/l	2	30
30	COD, mg/l	27	100
31	Chlorides (as Cl), mg/l	5.3	600
32	Sulfates (as SO <sub>4</sub> ), mg/l	5	1000
33	TDS, mg/l	66	2100
34	Sodium, (%)	2.4	60
35	Oil & Grease, mg/l	<4.0	10
36	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH, mg/l	<0.001	1.2
37	Cyanides, mg/l	<0.001	0.2
38	Fluorides (as F), mg/l	<0.1	1.5
39	Sulfide (as S), mg/l	<0.01	2.0
40	Chromium (Cr <sup>+6</sup> ), mg/l	<0.001	0.1
41	Chromium (Total), mg/l	<0.001	1.0
42	Copper, mg/l	<0.001	0.2
43	Lead, mg/l	<0.001	0.1
44	Mercury, mg/l	<0.001	0.01
45	Nickel, mg/l	<0.001	3.0
46	Zinc, mg/l	<0.01	2.0

Analysis Protocol: IS 3025



Checked By: Mr. Pankaj Baroi, ENVIROCON

**NOTE:**

1. Results reported are valid at the time of and under the prevailing conditions of measurement.
2. Results refer only to the particular parameters tested.
3. This test report shall not be reproduced except in full, without the written permission of ENVIROCON, I.O.C.L (AOD) New Market, Digboi – 786171, Assam.

**Core Services:** Environmental Monitoring & Data Generation, EIA & EMP, Environmental Audit & Allied Environmental Management jobs  
**Associate Services:** Certification by Competent Person (CIF), NDT, Hydraulic Testing, Chartered Engineer Services etc.



**CSIR-NORTH EAST INSTITUTE OF SCIENCE AND TECHNOLOGY**

(Formerly Regional Research Laboratory)  
(Council of Scientific & Industrial Research)

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सी एस आई आर-उत्तर पूर्व विज्ञान तथा प्रौद्योगिकी संस्थान

(पूर्व क्षेत्रीय अनुसंधान प्रयोगशाला) **Annexure - III**

(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)

जोरहाट - 785006 आसाम, भारत

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इपीएबीएक्स : 0376-2370117/2370121/2370139

ग्राम : रिसर्च फैक्स : 0376 2370011

ई-मेल : manashjyoti@neist.res.in

वेबसाइट : www.neist.res.in

**From: The Director**

**No. QSP/MgS/01/Testing/2023**

**Date: 04.12.2023**

To

Syamanta Gogoi,  
GM-Chemical (HoD)  
Oil India Limited, P.O.: Duliajan,  
Dist: Dibrugarh, Pin: 786602, Assam

**Sub: Chemical analysis of Barite sample.**

**Ref: Your letter no. Chem: 02/10(h)/SG/2023 dated 05.09.2023**

**For the sample received on 08.09.2023.**

Sir,

With reference to the above, please find enclosed herewith the test report for your needful. For your kind information please note that the report(s) are not to be used for any legal purpose and shall not be produced in any court of law to any dispute whatsoever.

The testing report shall not be utilized for any sales promotion or advertisement. We would be happy if you could send your feedback in the enclosed "customer satisfaction" format so that we can serve you better.

Thanking you.

Yours faithfully

*Bond*  
04.12.23

Head. Research Planning and Business Development Division

Encl: as above

Copy to: HoD/GL Analytical Chemistry Group, Materials Science and Technology Division

*Connecting Science & Technology for a Brighter Tomorrow*

उज्ज्वल भविष्य के लिए विज्ञान एवं प्रौद्योगिकी का समन्वय  
हम हिन्दी में किये गये पत्राचार का स्वागत करते हैं ।

No. ....

Date .....

To  
The Director  
CSIR-North East Institute of Science & Technology,  
Jorhat-785006  
Assam, India

**Sub: CSE feedback for Testing & Analysis  
(Chemical analysis of Barite sample)**

Kindly refer to your letter No.QSP/MgS/01/Testing/2023, dated 04.12.2023 on the above subject.

Enclosed please find our comments as follows with the tick mark in the appropriate box.

(1) Time taken for testing	As Scheduled <input type="checkbox"/>	Overdue <input type="checkbox"/>
(2) Procedures for depositing samples	Adequate <input type="checkbox"/>	Lengthy <input type="checkbox"/>
(3) Co-operation of the staff members	Friendly <input type="checkbox"/>	Indifferent <input type="checkbox"/>
(4) Will you utilize our Services for testing again?	Yes <input type="checkbox"/>	Probably <input type="checkbox"/>

Thanking you,

Yours faithfully,

Signature: .....

Name: .....

Address: .....

Contact details: .....







**CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY**  
**JORHAT – 785 006, ASSAM**

## **TEST REPORT**

**Report No. : CSIR-NEIST-Jorhat/QSP/MR/20/AnC/TR-3588(A)/2023**  
(No. of Pages : 03)

### **MEMORANDUM**

This Test Report is issued by CSIR-North-East Institute of Science & Technology, Jorhat, Assam, India, a National Laboratory under CSIR India. This Report refers only to the particular item submitted for test.

This Report if reproduced for any purpose, commercial or otherwise, should be reproduced in full. The reproduction of a part or an abstract thereof, has to be specifically approved from Director, CSIR-North-East Institute of Science & Technology, Jorhat.

The results reported in the Test Report are valid at the time of and under the stated conditions of measurement.



CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT – 785 006, ASSAM

Name of the Division : Analytical Chemistry Group, MSTD	Report No. CSIR-NEIST-Jorhat/QSP/MR 20/AnC/TR- 3588(A)/2023	
TEST REPORT OF Barite (2 nos.)	DATE 29/11/2023	PAGE 1 of 3

INDEX

CONTENTS

- SCOPE** : Chemical Analysis of Barite Powder  
Supplied by:  
S. Gogoi  
GM-Chemical (HoD)  
OIL INDIA Ltd. Duliajan
- REFERENCE** : Letter Ref. No.: Chem: 02/10(h)/SG/2023  
Dated: 05.09.2023
- TEST RESULTS** : Enclosed.
- CONCLUSION**

TEST CONDUCTED BY	CHECKED BY	APPROVED BY
 29/11/23 Dr. Ankana Phukan (Sr. Tech. Officer)	 29/11/23 Dr. P. J. Saikia (GL. Analytical Chemistry Group, MSTD)	 30/11/23 Dr. A. M. Das (Chairman, Testing Report Committee)

Released By	
Signature & Date	04.12.23



CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT – 785 006, ASSAM

Name of the Division : Analytical Chemistry Group, MSTD	Report No. CSIR-NEIST-Jorhat:QSP/MR/20/AnC/TR-3588(A)/2023			
TEST REPORT OF Barite (2 nos.)	DATE 29/11/2023		PAGE 2 of 3	

1. SCOPE

- 1.1 Service/Job Register No. & Date of Receipt : 1623.2023: 05/09/2023
- 1.2 Requested by : S. Gogoi  
(Name & Address of the Agency/ Client) : GM-Chemical (HOD)  
OIL INDIA Ltd. Duliajan
- 1.3 Description of the Test : Chemical analysis.
- 1.4 Sample Identification : Barite sample.
- 1.5 Environmental Conditions : Temperature : Room temperature  
Humidity :
- 1.6.1 Test Method : Flame, Hydride technique in AAS
- 1.6.2 Reference Standard & Year of Publication : NIL
- 1.6.3 Any other Standard : NIL
- 1.6.4 Any other Method : NIL
- 1.7

Equipment Used	Basic Accuracy
Equipment Name : (a) AAS Zeenit 700P	
Make : Analytic Jena	
Model : 700 P	
Calibration Due on : Auto Calibrated.	
Traceable to : Analytical Lab	

- 1.8 Location of Test : Analytical Chemistry Group, MSTD

TEST CONDUCTED BY	CHECKED BY	APPROVED BY
 29/11/23 Dr. Ankana Phukan (Sr. Tech. Officer)	 29/11/2023 Dr. P. J. Saha (GL. Analytical Chemistry Group, MSTD)	 29/11/2023 Dr. A. M. Das (Chairman, Testing Report Committee)




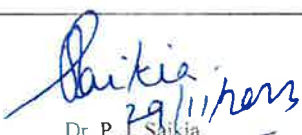

CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT – 785 006, ASSAM

Name of the Division : Analytical Chemistry Group, MSTD	Report No. CSIR-NEIST-Jorhat/QSP/MR/20/AnC/TR- 3588(A)/2023	
TEST REPORT OF Barite (2 nos.)	DATE 29/11/2023	PAGE 3 of 3

2. **RESULT**

SL. No.	Sample name (barite) (Source/Supplier)	Hg ( $\mu\text{g/gm}$ )	Cd (mg/gm)
1	M/S Gimpex Pvt. Ltd	0.03	BDL
2	M/S Ambika Mineral	0.07	BDL

BDL: Below detection limit, <0.01 mg/gm

TEST CONDUCTED BY	CHECKED BY	APPROVED BY
 29/11/23 Dr. Ankana Phukan (Sr. Tech. Officer)	 29/11/2023 Dr. P. J. Saikia (GL., Analytical Chemistry Group, MSTD)	 30/11/2023 Dr. A. M. Das (Chairman, Testing Report Committee)





গ্ৰীণটেক এনভাইৰনমেন্টেল ইঞ্জিনিয়াৰ এণ্ড কন্সালটেন্টছ  
GREEN TECH ENVIRONMENTAL ENGINEER & CONSULTANTS

House No-11, Champaknagar, Narayan Path, Bhetapara, Guwahati-781028, www.greentecheec.in  
Telefax -0361 3501950 Mobile: 9435046677, 9954089052, E-mail: green\_pranjal@hotmail.com, info@greentecheec.in



Annexure - IV

TEST REPORT

GEEC/FM/450A

ULR Number: TC59912400000018F			
Report No:GEEC/FL/23/TOX/2024/01/06		Date:	29/01/2024
Name of the Industry:	OIL INDIA Ltd.	Lab ID	GEEC/TT/2024/01/06
Address:	Oil India Ltd. Duliajan District: Dibrugarh, State : Assam	Date of Sampling/Collection:	09/01/2024
		Date of Receipt in Duliajan:	10/01/2024
		Date of Receipt in Lab:	11/01/2024
Rig	VFD-1	Test Start Date:	16/01/2024
Location:	BHC	Test End Date:	20/01/2024
DRILL FLUID QUALITY FOR TOXICITY			
SAMPLING RESULT			
Depth	2928 m	Mud Weight (MW,pcf)	72
Mud Type	HPWBM	MFV sec	55
Dose	Sample Concentration	Mortality (ln%)	Test Method
1	Control sample	0	IS 6582 (Part 2) Bioassay using Zebra Fish
2	5000 mg/L	0	
3	10000 mg/L	20	
4	20000 mg/L	30	
5	30500 mg/L	40	
6	40000 mg/L	50	
7	50000 mg/L	50	

Sample Drawn By : Client

Remarks: Limit for Toxicity of Drill Fluid 96 Hrs LC 50 > 30000 mg/l by fish toxicity.

Checked by:

*Belinda Lahon*

Dr. Belinda Lahon  
Quality Manager



Reviewed by:

*Pranjal Buragohain*  
Pranjal Buragohain  
Authorised Signatory

\* The results relate only to the item tested.

\* The test report shall not be produced except in full, without written approval of the laboratory.

\* The test report cannot be used as evidence in the court of law without prior written approval of the laboratory

\*\*\*\*\* End of report \*\*\*\*\*

*Handwritten signature*





ऑयल इंडिया लिमिटेड  
(भारत सरकार का उपक्रम) पंजीकृत कार्यालय : दुलियाजान, असम  
**Oil India Limited**  
(A Government of India Enterprise) Registered Office : Duliajan, Assam

CHEMICAL DEPARTMENT  
दुलियाजान ७८६ ६०२  
DULIAJAN 786 602  
Dist. Dibrugarh, Assam, India  
Phone : 0374-2800439 (O)  
Fax : 0374-2801680  
E-mail : chemical@oilindia.in

Ref. No: Chem: 01/10(h)/KKD/2024

Date: 08.01.2024

DIRECTOR,  
NORTH EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT-785006

Attention: Head- RP&BD, NEIST, Jorhat

Sub: Samples of Drill Cutting, Drilling Mud & Pit Water for analysis under  
Contract No: 6118548 (New)

Dear Sir,

Please refer to our contract No. 6118548 for hiring the services for analysis of Drill cuttings, Drilling mud and other drilling wastes and Barites Powder along with testing of Sodium Formate samples. In this connection, enclosed please find following three types of samples for your necessary analysis as per Schedule 2 of Hazardous Waste (Management and Handling) Rules, 1989 and forward the test results to GM-Chemical (HoD) within 60-days of receipt of sample.

Sample details:

Sl No	Sample Type	Quantity	Analysis for
1	Drill cuttings Sample	14 (Fourteen only)	Analysis of Mercury & oil Content in drill cuttings along with detail testing as per schedule 2 of Hazardous waste Rule, 1989.
2	Pit Water Sample	14 (Fourteen only)	Analysis of Mercury in pit water sample.
3	Drilling Fluid Samples	14 (Fourteen only)	Detailed testing of all parameters as per schedule 2 of Hazardous waste Rule, 1989.

The details of samples of various wells / sources are furnished in the attached sheets for your information please. You are also requested to provide individual analysis report for each sample to comply new guidelines issued by PCBA & MOEF.

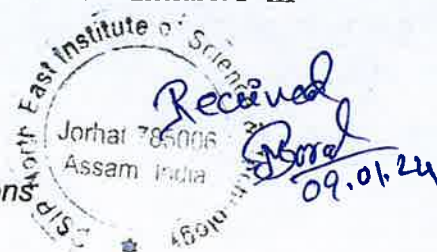
Thanking you,

Yours' faithfully,  
OIL INDIA LIMITED

(KRISHNA KANTA DAS)  
GM-CHEMICAL (HoD)  
OIL INDIA LIMITED, DULIAJAN

Encl. Annexure: I- III

Oil India Limited - Conquering Newer Horizons





ऑयल इंडिया लिमिटेड  
(भारत सरकार का उपम) पंजीकृत कार्यालय : दुलियाजान, असम  
**Oil India Limited**  
(A Government of India Enterprise) Registered Office : Duliajan, Assam

CHEMICAL DEPARTMENT  
दुलियाजान ७८६ ६०२  
DULIAJAN 786 602  
Dist. Dibrugarh, Assam, India  
Phone : 0374-2800439 (O)  
Fax : 0374-2801680  
E-mail : chemical@oilindia.in

Ref. No: Chem: 01/10(h)/KKD/2024

Date: 08.01.2024

**DIRECTOR,  
NORTH EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT-785006**

**Attention: Head- RP&BD, NEIST, Jorhat**

**Sub: Samples of Barites Powder and Sodium Formate for analysis under contract  
No: 6118548 (New)**

Dear Sir,

Please refer to our contract No. 6118548 for hiring the services for analysis of Drill cuttings Drilling mud and other drilling wastes and Barites Powder along with testing of Sodium Formate samples. In this connection enclosed please find the following Barytes and Sodium Format samples for necessary analysis and forward the test results to GM-Chemical (HoD) within 60days of receipt of sample.

Sample details:

Sl No	Sample Type	Quantity	Analysis for
1	Barites Powder	02 (Two only)	Analysis of Mercury & Cadmium
2	Sodium Formate	01 (One only)	Analysis as per OIL Specifications

The details of sample sources are furnished in the attached sheets for your information please. You are also requested to provide individual analysis report for each sample to comply new guidelines issued by PCBA & MOEF.

Thanking you,

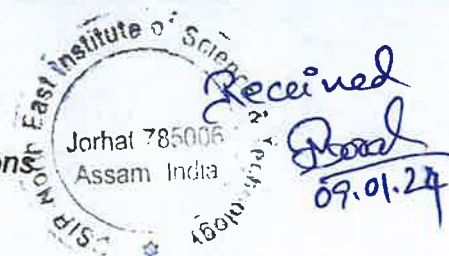
Yours' faithfully,  
OIL INDIA LIMITED

  
08/01/2024

(KRISHNA KANTA DAS)  
GM-CHEMICAL (HoD)  
OIL INDIA LIMITED, DULIAJAN

Encl. Annexure: IV- V

  
Oil India Limited - Conquering Newer Horizons



## FORM - O

[See Rules 29 - F (2) and 29 - L]

**Report of Medical Examination under Rule 29 - B**

(To be issued in Triplicate)\*\*

Certificate No **2488** /17

Certified that Shri/Shrimoti\* employed as Bikash Gargi (200845)  
 in NUR Chemical mine, Form D, No. has been examined for an initial/periodical\* medical  
 examination. He/She\* appears to be 37 years of age.  
 The findings of the examining authority are given in the attached sheet. It is considered that  
 Shri/Shrimoti\* Bikash Gargi

\*(a) is medically fit for any employment in mines.

\*(b) is suffering from \_\_\_\_\_ and is medically unfit for

(i) any employment in mine ; or

(ii) any employment below ground ; or

(iii) any employment or work \_\_\_\_\_

\*(c) is suffering from \_\_\_\_\_ and should get this disability\*  
 cured /controlled and should be again examined within a period of \_\_\_\_\_ months.

\*He /She will appear for re-examination with the result of test of \_\_\_\_\_

\*and the opinion of \_\_\_\_\_ specialist from \_\_\_\_\_

He /She\* may be permitted / not permitted \* to carry on his duties during this period.

Space for affixing  
 Passport size  
 Photograph of the  
 candidate

*Dipiyoti Sen*

Signature of Examining Authority

Dr. S. BANERJEE  
 General Manager (MS)  
 Occupational Health Section  
 C.I. India Hospital, P.O. D. 13, Durgam  
 Dist. Durgam (A.S. 10)

Place 13, Duttajen

Name and Designation of Unblock Letter

Date : \_\_\_\_\_

\* Delete whatever not applicable

\* One copy of the certificate shall be handed over to the person concerned and another copy shall be sent to the manager of the mine concerned by registered post; and the third copy shall be retained by the examining authority.

# Report of the Examining Authority

(To be filled in for every medical examination whether initial or periodical or re-examination or after cure / control of disability)

Annexure to certificate No. 2422/17 as a result of medical examination on 07/02/19

Identification Mark

A stitch mark near Rt. eye

Left thumb impression of the candidate  
Good / Fair / Poor

- 1 General development
- 2 Height ..... cms
- 3 Weight ..... kg
- 4 Eyes

i) Visual acuity - distant vision (with or without glasses)

Right Eye ..... 6/6  
Left Eye ..... 6/6

ii) Any organic disease of eyes

iii) Night blindness

iv) Squint

(\*to be tested in special cases)

5. Ears :

i) Hearing Right Ear WNL clinically

ii) Any organic disease NIL

Left Ear/ WNL clinically

6. Respiratory System :

Chest measurement : chest clinically clear

i) After full inspiration

ii) After Full expiration

7. Circulatory System : WNL

Blood Pressure 140/86 mmHg

Pulse 76/min

8. Abdomen : Soft

Tenderness NIL

Liver > NP

Spleen > NP

Tumour NIL

9. Nervous System : WNL

History of fits or epilepsy NIL

Paralysis NIL

Mental Health WNL

10. Locomotor System WNL

11. Skin WNL

12. Hernia > NIL

13. Hydrocele > NIL

14. Any other abnormality 1 NIL

15. Urine :

Reaction

Albumin > - nil

Sugar > - nil

16. Skiagram of chest

17. Any other "C" test considered necessary by the examining authority

18. Any opinion of specialist considered necessary.

ECG : WNL

CXR : N. Study

US Abdom No. 8542

- Splenomegaly.

S. BILIRUBIN : 0.8 mg/dl.

SGOT : 44 U/L

SGPT : 82 U/L

SAP : 228 U/L

PROTEIN : 7.2 G/dl.

ALBUMIN : 4.0 G/dl.

GLOBULIN : 3.2 G/dl.

URIC ACID : ..... mg/dl.

STOOL RETE : Var cell

TC : 680 Cmm

PLATELET : 216,000 Cmm

p6824M02-06

Hb : 12.4 gm/dl.

FBS : 106 mg/dl.

PPBS : 119 mg/dl.

UREA : 22 gm/dl.

CREATININ : 1.0 gm/dl.

CHOLESTEROL : 156 gm/dl.

TRIGLYCERIDE : 150 gm/dl.

HDL : 58 gm/dl.

LDL : 67 gm/dl.

Place : UN

Signature of the Examining Authority



E-200845

**Report of Medical Examination as per the recommendations of  
National Safety Conferences in Mines  
(To be used in continuation with Form "O")**

Certificate No. :

Name :

Identification Marks :

B. Gogoi

7/2/19

200845

Chemical

**1. Cardiological Assessment :**

Auscultation	S1	Normal / Abnormal
	S2	Normal / Abnormal
	Additional Sound	Normal / Abnormal
Electrocardiograph (12 leads) finding		Normal / Abnormal

**2. Neurological Assessment :**

Findings	Normal / Abnormal
Superficial Reflexes	Normal / Abnormal
Deep Reflexes	Normal / Abnormal
Peripheral Circulation	Normal / Abnormal
Vibrational Syndromes	Normal / Abnormal

**3. ILO Classification of Chest Radiograph : (N/A)**

Profusion of Pnemoconiotic opacities	Grades	Types
Present / absent		

**4. Audiometry Findings :**

Conduction Type	Left Ear	Right Ear
Ear Conduction	Normal / Abnormal	Normal / Abnormal
Bone Conduction	Normal / Abnormal	Normal / Abnormal

**5. Pathological / Microbiological Investigations :**

Sl. No.	Tests	Findings
1.	Blood - Tc, Dc, Hb, ESR, Platelets	WNL / Abnormal
2.	Blood Sugar - Fasting & PP	WNL / Abnormal
3.	Lipid Profile	WNL / Abnormal
4.	Blood Urea, Creatinine	WNL / Abnormal
5.	Urine Routine	WNL / Abnormal
6.	Stool Routine	WNL / Abnormal

**6. Special Tests for Mn exposure : (N/A)**

Behavioral Disturbances		Present / Not Present
Neurological Disturbances	Speech Defect	Present / Not Present
	Tremor	Present / Not Present
	Adiadocokinesia	Present / Not Present
	Emotional changes	Present / Not Present

**7. Any other Special Test Required :****Result of Lung Function Test (Spirometry)**

Parameters	Predicted Value	Performed Value	% of Predicted
Forced Vital Capacity (FVC)			
Forced Vital Capacity 1 (FEV1)			
FEV1/FVC			
Peak Expiratory Flow			

H —  
KG/17

*Sipiyoti Devi*  
Signature of the Examining Authority



# Report of Medical Examination under Rule 29 - B

(To be issued in Triplicate)\*\*

Certificate No 2531 /17

Certified that Shri/Shrimati\* employed as Pankaj Phukan (200675)  
in M.M.K. Chemical mine, Form D, No. has been examined for an initial/periodical\* medical  
examination. He/She\* appears to be 29 years of age.  
The findings of the examining authority are given in the attached sheet. It is considered that  
Shri/Shrimati\* Pankaj Phukan

\* (a) is medically fit for any employment in mines.

\* (b) is suffering from ..... and is medically unfit for

(i) any employment in mine ; or

(ii) any employment below ground ; or

(iii) any employment or work .....

\* (c) Is suffering from ..... and should get this disability\*  
cured /controlled and should be again examined within a period of ..... months.

\*He /She will appear for re-examination with the result of test of .....

\*and the opinion of ..... specialist from .....

He /She\* may be permitted / not permitted \* to carry on his duties during this period.

Space for affixing  
Passport size  
Photograph of the  
candidate

Signature of Examining Authority

Dr. S. BAISHYA  
General Manager (MS)  
Occupational Health Section  
O.I. Ind. Hosp. Ltd. P.O. (Ind. Hosp.) 781002  
Dist. Dibrugarh (Assam)

Place : 113, Dibrugarh

Name and Designation of Block Letter

Date : 02 APR 2014

- \* Delete whatever not applicable
- \* One copy of the certificate shall be handed over to the person concerned and another copy shall be sent to the manager of the mine concerned by registered post, and the third copy shall be retained by the examining authority.

# Report of the Examining Authority

(To be filled in for every medical examination whether initial or periodical or re-examination or after cure / control of disability)

Annexure to certificate No. 126/17  
of medical examination on 14/02/17

Identification Mark

Small scar upper lip on H. side

Pankaj Phule as a result  
Pankaj Phule  
Left thumb impression of the candidate  
Good / Fair / Poor

Blood Group B +ve

1. General development
2. Height ..... cms.
3. Weight ..... kg.
4. Eyes
  - i) Visual acuity - distant vision (with or without glasses)

Right Eye 6/6  
Left Eye 6/9

- ii) Any organic disease of eyes
- iii) Night blindness
- iv) Squint NIL  
(\*to be tested in special cases)

5. Ears :
  - i) Hearing Right Ear NIL (clinically) Left Ear NIL (clinically)
  - ii) Any organic disease NIL

6. Respiratory System :
  - i) Chest measurement : Good clinically clear ECG : NIL
  - ii) After full inspiration ..... cms.
  - iii) After Full expiration ..... cms.
7. Circulatory System : NIL CXR : N. Study  
Blood Pressure 112/80 mmHg US Abdom No. 8764

8. Abdomen : Mild hepatomegaly with fatty changes.  
Tenderness NIL  
Liver 2 finger span below  
Spleen NIL  
Tumour NIL

9. Nervous System : NIL  
History of fits or epilepsy NIL  
Paralysis NIL  
Mental Health Normal

10. Locomotor System : NIL
11. Skin NIL
12. Hernia NIL
13. Hydrocele NIL
14. Any other abnormality NIL
15. Urine :
  - Reaction
  - Albumin > Nil
  - Sugar
16. Skiagram of chest
17. Any other "C" test considered necessary by the examining authority
18. Any opinion of specialist considered necessary

S. BILIRUBIN : 2.7 mg/dl.  
SGOT : 32 U/L  
SGPT : 36 U/L  
CAP : 211 U/L  
PROTEIN : 7.9 G/dl  
ALBUMIN : 4.5 G/dl  
GLOBULIN : 3.4 G/dl  
URIC ACID : ..... mg/dl  
COPPER : ..... mg/dl

TC : 4800 Cmm  
PLATELET : 198000 Cmm  
P7324201 : 02  
Hb : 15.6 gm/dl.  
PBS : 90 mg/dl.  
PPBS : 107 mg/dl.  
UREA : 16 gm/dl.  
CREATIN : 1.0 gm/dl.  
CHOLESTER : 168 gm/dl.  
LIPID : 136 gm/dl.  
HDL : 44 gm/dl.  
LDL : 97 gm/dl.

Place : INDIA

Signature of the Examining Authority

C-2006/13

**Report of Medical Examination as per the recommendations of  
National Safety Conferences in Mines  
(To be used in continuation with Form "O")**

Certificate No. :  
Name : P. Phukan  
Identification Marks : 200878

11/1/19  
Chemical

**1. Cardiological Assessment :**

Auscultation	S1	Normal / Abnormal
	S2	Normal / Abnormal
	Additional Sound	Normal / Abnormal
Electrocardiograph (12 leads) finding		Normal / Abnormal

**2. Neurological Assessment :**

Findings	Normal / Abnormal
Superficial Reflexes	Normal / Abnormal
Deep Reflexes	Normal / Abnormal
Peripheral Circulation	Normal / Abnormal
Vibrational Syndromes	Normal / Abnormal

**3. ILO Classification of Chest Radiograph : CNA**

Profusion of Pneumoconiotic opacities	Grades	Types
Present / absent		

**4. Audiometry Findings : WNL**

Conduction Type	Left Ear	Right Ear
Ear Conduction	Normal / Abnormal	Normal / Abnormal
Bone Conduction	Normal / Abnormal	Normal / Abnormal

**5. Pathological / Microbiological Investigations :**

Sl. No.	Tests	Findings
1.	Blood - Tc, Dc, Hb, ESR, Platelets	WNL / Abnormal
2.	Blood Sugar - Fasting & PP	WNL / Abnormal
3.	Lipid Profile	WNL / Abnormal
4.	Blood Urea, Creatinine	WNL / Abnormal
5.	Urine Routine	WNL / Abnormal
6.	Stool Routine	WNL / Abnormal

**6. Special Tests for Mn exposure : CNA**

Neurological Disturbances	Behavioral Disturbances	Present / Not Present
	Speech Defect	Present / Not Present
	Tremor	Present / Not Present
	Adiadocokinesia	Present / Not Present
	Emotional changes	Present / Not Present

**7. Any other Special Test Required :**

**Result of Lung Function Test (Spirometry)**

Parameters	Predicted Value	Performed Value	% of Predicted
Forced Vital Capacity (FVC)			
Forced Vital Capacity 1 (FEV1)			
FEV1/FVC			
Peak Expiratory Flow			

W —  
H —  
KG/17

Signature of the Examining Authority



## FORM - O

[See Rules 29 - F (2) and 29 - L]

**Report of Medical Examination under Rule 29 - B**

(To be issued in Triplicate)\*\*

Certificate No. **2502**

/17

Certified that ~~Shri/Shrimoti~~ employed as Riku Gogai (200849)  
 in MHK Chemical mine, Form D, No. has been examined for an initial/periodical\* medical  
 examination. He/She\* appears to be 32 years of age.  
 The findings of the examining authority are given in the attached sheet. It is considered that  
 Shri/Shrimoti\* Riku Gogai

\* (a) is medically fit for any employment in mines.

\* (b) is suffering from ..... and is medically unfit for

(i) any employment in mine ; or

(ii) any employment below ground ; or

(iii) any employment or work .....

\* (c) is suffering from ..... and should get this disability\*  
 cured /controlled and should be again examined within a period of ..... months.

\*He /She will appear for re-examination with the result of test of .....

\*and the opinion of ..... specialist from .....

He /She\* may be permitted / not permitted \* to carry on his duties during this period.

Space for affixing  
 Passport size  
 Photograph of the  
 candidate

*Deepjyoti Das.*

Signature of Examining Authority

Dr. S. Dasgupta  
 General Manager (MS)  
 Occupational Health Section  
 Oil India Hospital, P.O. Dulia, Pin-755002  
 Dist. Bhubaneswar (Orissa)

Place Dulia, Dulia

Name and Designation of Block Letter

Date : .....

- \* Delete whatever not applicable
- \* One copy of the certificate shall be handed over to the person concerned and another copy shall be sent to the manager of the mine concerned by registered post; and the third copy shall be retained by the examining authority.

# Report of the Examining Authority

(To be filled in for every medical examination whether initial or periodical or re-examination or after cure / control of disability)

Annexure to certificate No. 2501/17 as a result of medical examination on 08/02/19

Identification Mark

A cut mark on forehead.

R Gogoi  
Left thumb impression of the candidate  
Good / Fair / Poor

Blood Group O+ve

1. General development
2. Height ..... cms.
3. Weight ..... kg.
4. Eyes
  - i) Visual acuity - distant vision (with or without glasses)

Right Eye 2/6  
Left Eye 6/6

- ii) Any organic disease of eyes
- iii) Night blindness NIL
- iv) Squint
- (\*to be tested in special cases)

5. Ears :
  - i) Hearing Right Ear WNL clinically Left Ear WNL clinically
  - ii) Any organic disease NIL

6. Respiratory System : chest clinically clear ECG : NIL  
Chest measurement : ..... cms. CXR : NIL study  
i) After full inspiration ..... cms.  
ii) After Full expiration ..... cms. Abdom No. 8577

7. Circulatory System : WNL  
Blood Pressure 120/80 mmHg  
Pulse 64/min
8. Abdomen : soft  
Tenderness NIL

- Mild hepatomegaly with  
batty changes.

- Liver > NP
- Spleen NIL
- Tumour NIL
9. Nervous System : WNL  
History of fits or epilepsy NIL  
Paralysis NIL  
Mental Health WNL
10. Locomotor System WNL
11. Skin WNL
12. Hernia > NIL
13. Hydrocele NIL
14. Any other abnormality NIL
15. Urine :  
Reaction  
Albumin NIL  
Sugar NIL

S. BILIRUBIN : 1.0 mg/dl  
SGOT : 48 U/L  
SGPT : 66 U/L  
SAP : 158 U/L  
PROTEIN : 8.0 G/dl  
ALBUMIN : 4.3 G/dl  
GLOBULIN : 3.7 G/dl  
URIC ACID : ..... mg/dl  
STOOL RE/ME : .....

TC : 6600 /Cmm  
PLATELET : 135000 /Cmm  
P<sub>5834</sub> : 08  
Hb : 13.9 gm/dl  
FBS : 101 mg/dl  
PPBS : 113 mg/dl  
UREA : 18 gm/dl  
CREATININE : 0.8 gm/dl  
CHOLESTEROL : 135 gm/dl  
TRIGLYCERIDE : 82 gm/dl  
HDL : 44 gm/dl  
LDL : 74 gm/dl

16. Skiagram of chest
17. Any other "C" test considered necessary by the examining authority
18. Any opinion of specialist considered necessary.

Place : D J N

Signature of the Examining Authority



E-20084-91

**Report of Medical Examination as per the recommendations of  
National Safety Conferences in Mines  
(To be used in continuation with Form "O")**

Certificate No. :  
Name : R. Gogoi  
Identification Marks : 200849

8/2/19

Chemical.

**1. Cardiological Assessment :**

Auscultation	S1	Normal / Abnormal
	S2	Normal / Abnormal
	Additional Sound	Normal / Abnormal
Electrocardiograph (12 leads) finding		Normal / Abnormal

**2. Neurological Assessment :**

Findings	Normal / Abnormal
Superficial Reflexes	Normal / Abnormal
Deep Reflexes	Normal / Abnormal
Peripheral Circulation	Normal / Abnormal
Vibrational Syndromes	Normal / Abnormal

**3. ILO Classification of Chest Radiograph : (N/A)**

Profusion of Pneumoconiotic opacities	Grades	Types
Present / absent		

**4. Audiometry Findings :**

Conduction Type	Left Ear	Right Ear
Ear Conduction	Normal / Abnormal	Normal / Abnormal
Bone Conduction	Normal / Abnormal	Normal / Abnormal

**5. Pathological / Microbiological Investigations :**

Sl. No	Tests	Findings
1.	Blood - Tc, Dc, Hb, ESR, Platelets	WNL / Abnormal
2.	Blood Sugar - Fasting & PP	WNL / Abnormal
3.	Lipid Profile	WNL / Abnormal
4.	Blood Urea, Creatinine	WNL / Abnormal
5.	Urine Routine	WNL / Abnormal
6.	Stool Routine	WNL / Abnormal

**6. Special Tests for Mn exposure : (N/A)**

Behavioral Disturbances		Present / Not Present
Neurological Disturbances	Speech Defect	Present / Not Present
	Tremor	Present / Not Present
	Adiadocokinesia	Present / Not Present
	Emotional changes	Present / Not Present

**7. Any other Special Test Required :****Result of Lung Function Test (Spirometry)**

Parameters	Predicted Value	Performed Value	% of Predicted
Forced Vital Capacity (FVC)			
Forced Vital Capacity 1 (FEV1)			
FEV1/FVC			
Peak Expiratory Flow			

W  
H  
KG/17

Siphoi Das.  
Signature of the Examining Authority





‘গীত-কথা আর কবিতা  
দুপৰীয়া’ শীৰ্ষক অনুষ্ঠানে  
নতন বছৰক আদৰ্শ

[illegible]

হুয়গাঁও-বকো সমন্বিত অসামাজিক কার্যকলাপ বন্ধৰ দাবী ■ মুখ্যমন্ত্ৰীলৈ স্মাৰক-পত্ৰ প্ৰেৰণ  
গৰৈমাৰীত সাংবাদিকৰ অৱস্থান ধৰ্মঘট

[illegible]

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ଲେଉଟି ନିଜର ମର-ବାଟି ବିକାଶ କରି  
ପ୍ରବାହଟି ନାହିଁ ବାହାବାହା ଓ ନିଜ  
ହାତ୍ତିବା ଅତି କୋଳାହାଲ ନିଜର  
ନବିନୀଳ ମୋହମାନ ନି ଆସିବେ  
ଆସିବେ ମଧ୍ୟ ଅନ୍ଧାର ଓ ଶ୍ରବଣ ବାଣୀ

আইড ২২ অংক গল্প সন্দেহজনক  
 সংখ্যা অনুসৃত গ্রন্থাক্রম  
 মন্তব্য বৃষ্টি পাইয়ে দুঃখ  
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[illegible]

## তেজপুৰত আৰক্ষীৰ ফায়াৰিং ৰেঞ্জত অঘটন

## দুজন জোরান আহত

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# নহিৰাত নাট সংকলন উন্মোচন

निष्ठा : निष्ठा नाट्य प्रेमिका, ७१  
 वि३ प्र३ : निष्ठा नाट्य प्रेमिका, ७१  
 याचि निष्ठा नाट्य प्रेमिका, ७१  
 याचि निष्ठा नाट्य प्रेमिका, ७१

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## নলবাৰীত দৰিদ্ৰ লোকক

**କୃତ୍ତିତ୍ୱ**

"Liverpool School of Tropical Medicine, UK"  
 যে আবেশেরই পর্যায়  
 আছে। তখন বলা "Homo-  
 Success" পর্যায়টি  
 "Women and Psycho-  
 logical Health" সম্বন্ধে  
 চর্চায়ও আলপাইন পর্যায়  
 বলাই। (পাঠ্য ইতিহাস) প  
 প্রথমবারের শ্রীরও এটিই  
 জানিয়ে উল্লেখ করে যে উক্ত  
 পর্যায়টিও বলা হবে যে উক্ত  
 প্রজ-কর্মের মাধ্যমে জীবিত পিতৃ  
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## POST GRADUATE ADMISSION

**DIBRUGARH UNIVERSITY &  
ASSAM SCIENCE & TECHNOLOGY UNIVERSITY**  
North East Institute of Management Science (NEIMS)  
Near RRL, Jorhat-6, Assam  
Estd. in the year 2000  
Approved by NCTE and AICTE, Govt. of India

**Bachelor of Education (B.Ed.)**  
**Master of Social Work (MSW)**  
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## SHORT TENDER NOTICE

Sealed tenders must be presented, to be drawn in A.P.W.C. 1-2 Form of Agreement for Non-Refundable Cost fee Stamp No. A-2, Bidders' rights and security deposits are hereby reserved from registered Contractors firms of Immigration Department for the following goods and services: Pathdala Division (Immigration). Pathdala will be received by the undersigned on 2,000 P.M. (6:00) 2021 and will be opened on the same date and place at 2:30 P.M. in presence of the interested Contractors or their authorized agents if any. If the closing date of receiving the tender paper to be the day or any "handful" the same will be received and opened on the next working day in the same time and place.

Sl. No.	Name of Work	Approximate Value	Time (in months)
1	Re-opening of Main Canal, Branch Canal and Branch	Rs. 25.00 lakhs	45 Days



**Common Environment Management Plan for Onshore Oil & Gas**  
**Drilling Activity**



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## **1.0 INTRODUCTION:**

OIL INDIA LIMITED (OIL), a Government of India Maharatna Enterprise, is currently engaged in carrying out hydrocarbon exploration and production activities mostly in its operational areas in Upper Assam, Arunachal Pradesh and Mizoram in the North Eastern part of India. OIL is also undertaking hydrocarbon exploration activities in few Indian states and few overseas countries. Oil India Limited was incorporated on 18<sup>th</sup> February 1959 to expand and develop the newly discovered oil fields of Naharkatia and Moran in the Indian North East. In 1961, it became a joint venture company between the Indian Government and Burmah Oil Company Limited, UK. In 1981, OIL became a wholly owned Government of India enterprise. Today, OIL is a premier Indian National Oil Company engaged in the business of exploration, development and production of crude oil and natural gas, transportation of crude oil and production of LPG.

Govt. of India and Assam has awarded Petroleum Mining Leases (PML) to OIL for exploration and development of oil & gas at Dibrugarh, Chabua, Tinsukia, Hugrujan, Naharkatiya Extn, Dholiya and Dumduma areas including the adjoining areas in Dibrugarh, Tinsukia and Sibsagar Districts.

## **2.0 Environmental Management Plan**

This Environmental Management Plan and Monitoring Framework is a site-specific document for the drilling activities that have been developed to ensure that OIL can implement the project in an environmentally conscious manner and where all contractors, understand the potential environmental risks arising out of the proposed project and take appropriate actions to properly manage such risk.

This EMP will be an overview document that will guide environmental management of all aspects of OIL's activities i.e. construction and operation of drilling wells. This EMP will be backed up by more specific Environmental Action Plans, Procedures and Bridging Documents.

The EMP describes the actions to be adopted in terms of:

- National Policies and Regulations;
- Best Practices and guides; and
- Local Environmental and Social Sensitivities.

**The Environment Policy of OIL is presented below.**



### 3.0 IMPACT ASSESSMENT

The potential impacts arising due to the construction and operation of the drilling activities are given below:

**3.1 Air Quality:** The operation of DG/GG sets, movement of vehicles and machineries during construction and drilling at drill sites will result in the generation of air pollutants viz. PM, NO<sub>x</sub> and SO<sub>x</sub> that may affect the ambient air quality temporarily. Air pollutants like particulate matter, hydrocarbons and NO<sub>x</sub> will also be generated during drilling operations.

**3.2 Noise Quality:** Operation of heavy machinery/equipments and vehicular movement during site preparatory and road strengthening/construction activities may result in the generation of increased noise levels. Operational phase noise impacts are anticipated from the running of drilling rig and ancillary equipment viz. shale shakers, mud pumps and diesel generators, gas generators.

**3.3 Soil Quality:** Stripping of top soil will affect the soil fertility of the well sites temporarily. Potential adverse impacts on soil quality may also result from improper storage and handling of fuel, lubricants, drilling mud and drill cuttings.

**3.4 Water Quality and Hydrogeology:** All wastewater discharged from the drilling operations will be treated in the ETP and discharges will conform to CPCB standards. As the volume of water to be discharged is small, it is anticipated to cause minor increase in pollution load for specific parameters in receiving water bodies. Uncontrolled surface runoff from the drill sites may compose of waste fluids or storm water mixed with oil and grease and may pollute the surface water quality. However, the surface runoff will be treated with sedimentation tank and oil water separator at site.

#### **3.5 Biological Environment:**

The existing vegetation at the proposed drill sites, approach roads and RoU of the pipeline will be felled for site development. Noise generated from drilling operations and vehicular movement within the drill sites and approach roads may affect the reptiles, birds and mammals adversely and may result in their moving away from the project area for a temporary period. OIL will obtain Forest Clearance from MoEF&CC for drilling within the forestlands; all the conditions mentioned in the forest clearance would be complied. Surface runoff from the drill sites contaminated with sediment, may reach surface water channels and increase the suspended solids load of the channel water. Increase of suspended solid will increase the turbidity of river water that ultimately will adversely affect the DO level in the water. The turbid water and lower DO may affect the primary productivity of the impacted areas of the rivers. The process effluent will be adequately treated in the ETP to meet the industrial effluent discharge standards. The discharge of treated effluent is not expected to cause perceptible changes in the water quality of the receiving stream.

**3.6 Socio-Economic Environment:** Approximately 3 ha. land would be required for each well. Land will be purchased from local communities however; no physical displacement during land procurement is anticipated. Additionally, land will also be procured for construction of 100-200 m approach road to the drill site from existing roads. Anticipated number of families directly impacted would be limited to 2-5 nos. for each of the drill sites. The dependency of the landowner in case of generation of livelihood is limited as the land is classified as monocropped agricultural land.

OIL/its contractors would endeavour to provide maximum employment to the local people; however, certain percentage of semi-skilled and highly skilled migrant labour would be used by contractors for manning technical activities. It is anticipated that occasional conflicts would arise with the local community over the recruitment of migrant workers. Discomfort due to dust and noise to adjoining communities, influx of people are likely to occur.

The construction phase of the project is likely to generate both direct and indirect opportunities for employment. The estimated direct employment would be approximately 50 un-skilled workers during the peak construction phase that will primarily sourced from nearby areas. Indirect employment would be primarily in the supply chain as vendors, which are anticipated to be set up to support the construction.

**3.7 Impact on Community Health & Safety:** Community health and safety of inhabitants residing close to the proposed well sites stand to get affected from frequent heavy vehicular movements along village access roads and due to noise from drilling rig operations, movement of heavy vehicles during construction etc.

## **4.0 DETAIL ENVIRONMENTAL MANAGEMENT PLAN**

### **4.1 Air Quality Management Plan**

- Vehicles delivering raw materials like fine aggregates will be covered to prevent fugitive emissions.
- Sprinkling of water on earthworks, material haulage and transportation routes on a regular basis during construction and decommissioning phase of the wells.
- Flare stacks of adequate height would be provided.
- DG/GG set stacks would have adequate height, as per statutory requirements, to be able to adequately disperse exhaust gases
- Periodic monitoring of DG/GG set stack emission will be carried out in accordance with the Environmental Monitoring Plan to assess compliance with CPCB DG set exhaust standards.

### **4.2 Noise Management Plan**

- Selection and use of low noise generating equipment with in-built engineering controls viz. mufflers, silencers, etc.
- All DG/GG sets would be provided with acoustic enclosures.
- Appropriate PPEs (e.g. ear plugs) will be used for by workers while working near high noise generating equipment.
- All vehicles utilized in transportation of raw materials and personnel will have valid Pollution under Control Certificates (PUC).
- All high noise generating equipment will be identified and subjected to periodic preventive maintenance.
- No night time operation of vehicles and construction activities will be undertaken.



#### **4.3 Soil Quality Management Plan**

- Drip trays to be used during vehicular/equipment maintenance and during re-fuelling operations.
- Spill kits will be made available at all fuel and lubricant storage areas. All spills/leaks contained, reported and cleaned up immediately.
- Dedicated paved storage area will be identified for the drilling chemicals, fuel, lubricants and oils within the drill sites.
- 1.5 mm HDPE lined pits will be considered for the disposal of unusable drilling mud cuttings and drilling wastewater etc.

#### **4.4 Surface Water Quality Management Plan**

- Levelling and grading operations will be undertaken with minimal disturbance to the existing site contours thereby maintaining the general slope and topographical profile of the site.
- During site preparation and construction, surface water run-off will be channelized through appropriately designed drainage system.
- Sediment filters and oil-water separators will be installed to intercept run-off and remove sediment before it enters water courses.
- Domestic wastewater generated from drill sites will be treated through septic tank and soak pit system and then discharged.
- Process wastewater would be treated in Effluent Treatment Plant (ETP) at drill sites.

#### **4.5 Ground Water Quality Management Plan**

- Water based mud would be used as a drilling fluid for the proposed project.
- Eco-friendly synthetic based mud if required for deeper sections, will be used after providing intimation to the Pollution Control Board;
- The drill cutting along with spent mud will be stored in HDPE lined pit.

#### **4.6 Waste Management Plan**

- Use of low toxicity chemicals for the preparation of drilling fluid.
- Management of drill cuttings, waste drilling mud, waste oil and domestic waste, wastewater in accordance with Standards for Emission or Discharge of Environmental Pollutants from Oil Drilling and Gas Extraction Industry of CPCB as modified in 2005.
- The hazardous waste (waste and used oil) will be managed in accordance with Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016.
- The kitchen waste will be disposed in nearest municipal/village dumping site on a daily basis through approved waste handling contractors.
- The sewage generated will be treated through septic tank and soak pit system.
- Used batteries will be recycled through the vendors supplying lead acid batteries as required under the Batteries (Management & Handling) Rules, 2001.
- The drilling cuttings pit will be bunded and kept covered using tarpaulin sheets during monsoon.



#### **4.7 Wildlife Management Plan**

- Movement of heavy vehicles will be restricted at night time, especially if access roads pass through forest areas, as most of the mammals movement occurs during night;
- Noise levels at the drill sites will be controlled through selection of low noise generating equipment and installation of sufficient engineering controls viz. mufflers, silencers etc.
- No temporary electric supply connection line from the grid will be laid for the proposed project activity. All electric requirements will be supplied from the internal DG sets.
- OIL will have to take Forest Clearance from MoEFCC for development of drill sites, access roads and laying of pipeline within forest areas.

#### **4.8 Road Safety & Traffic Management Plan**

- The condition of roads and bridges identified for movement of vehicles and drilling rig will be assessed and if required strengthened by OIL to ensure their safe movement.
- Precautions will be taken by the contractor to avoid damage to the public access routes including highways during vehicular movement.
- Traffic flows will be scheduled wherever practicable during period of increased commuter movement.

#### **4.9 Occupation Health & Safety Management Plan**

- All machines to be used in the construction will conform to the relevant Indian Standards (IS) codes, will be kept in good working order, will be regularly inspected and properly maintained as per IS provisions and to the satisfaction of the site Engineer.
- Hazardous and risky areas, installations, materials, safety measures, emergency exits, etc. shall be appropriately marked.

#### **4.10 Management of Social issues and concerns**

- People from adjoining areas especially given job preference through local contractors according to the skill sets possessed.
- Prior to the commencement of the proposed activity, a consultation program will be conducted by OIL with the target groups and local authorities. The primary objective of such consultation will be to share with the concerned villagers/stakeholders the objective of the proposed project associated impacts and their mitigation.
- OIL will give more emphasis and priority on periphery development, development of health facilities and provision for drinking water facility as per Corporate Social Responsibility (CSR) Plan.
- The drill sites would be fenced and gates would be constructed so that the children are refrained from straying into the site.



#### **4.11 Emergency Response Plan**

- Drilling rig and related equipment to be used for drilling will be conformed to international standards specified for such equipment.
- Blow-out preventers and related well control equipment shall be installed, operated, maintained and tested generally in accordance with internationally recognized standards.
- Appropriate gas and leak detection system will be made available at each of the drill sites.
- Adequate fire-fighting equipment shall be provided at each drilling site.

The environmental mitigation measures and plans are presented in form of a matrix according to the sequential flow of activities in the project life cycle. The matrix focuses on strategies to be adopted for safe guard of the environment from possible impacts resulting out of the project activities. The strategies have further been detailed out as management procedures and programmes in subsequent sections.

The EMP helps establish the linkage between the activities environmental impacts and mitigation measures and presents the monitoring framework i.e. the Environmental Performance Indicator (EPI) No. as well as the Environmental Quality Indicator (EQI).

## 5.0 Environment Management Matrix

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
1.	Physical Presence of drill site, rig and other machinery.	1.1	Change in visual characteristics of the area due to installation of drilling setup	Temporary change in landscape	On completion of works (in phases) all temporary structures, surplus materials and wastes will be completely removed. Only structure required for safety purposes would be retained on the bare drill site.	Site Inspection	Construction & Drilling	OIL/Contractor	Waste Management Plan
		1.2	Increase of illumination at night time due to installation of drilling setup	Temporary disturbance of the nearby villagers	Appropriate shading of lights to prevent scattering	Grievance records/ Consultation with Villagers	Construction & Drilling	OIL/Contractor	Management of social issues & concerns
		1.3	Influx of man power & immigrant labour force to nearby villages	Possibility Cultural and behavioural conflict	Preference used of local labour forces to the extent possible	Grievance records	Construction & Drilling	OIL/Contractor	Management of social issues & concerns
2.	Storage & Handling of Materials & Spoils	2.1	Emission of fugitive dust from loading & unloading operation	Temporary impact on air quality especially SPM	All loading and unloading activities to be carried out as close as possible to the storage facilities.	Site Inspection	Construction & Drilling	OIL/Contractor	Air Quality Management
		2.2	Accidental spillage of oil & chemicals	Potential contamination of surface water body resulting impact on aquatic ecosystem	All spills to be reported and contained to prevent entry of spilled chemicals/fuels to any surface water body or drainage channel	Records of spills/Community Grievances	Construction & Drilling	OIL/Contractor	Surface water quality management plan, Wildlife Management Plan
				Potential impact on soil quality	All spills to be reported and remedial measures to be taken for clean-up of the spill.	Records of Spills/Site Inspection	Construction & Drilling	OIL/Contractor	Spill management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
3.	Transport of Materials, Spoils and Machinery	3.1	Emission of gaseous pollutants from vehicle during transportation of materials, spoils and machinery	Temporary deterioration on air quality along transport route	All diesel-powered equipment will be regularly maintained and idling time reduced to minimise emissions;  Vehicle / equipment air emissions will be controlled by good practice procedures (such as turning off equipment when not in use);  Vehicle / equipment exhausts observed emitting significant black smoke in their exhausts will be serviced/ replaced	Records and Site Inspection	Construction & Drilling	OIL/Contractor	Air Quality Management plan
		3.2	Noise emission during transport of materials, spoils and machinery	Temporary deterioration in ambient noise along the transportation route	Undertake preventive maintenance of vehicles and machinery to reduce noise levels.  Restriction on unnecessary use of horns by trucks and vehicle in settlement area	Site Inspection/Records of repairs	Construction & Drilling	OIL/Contractor	Noise Quality Management Plan
4.	Operation & maintenance of rig and associated machinery.	4.1	Emission of air pollutant from DG/GG sets	Temporary impact on air quality due to increase in concentration of gaseous pollutants e.g. NOx, HC	Preventive maintenance of DG sets to be undertaken as per manufacturers schedule	Site Inspection/Records of repairs	Drilling	OIL/Contractor	Air Quality Management plan
		4.2	Emission of Noise from DG/GG sets	Temporary increase of ambient as well as	All workers working near high noise generating equipment to be provided	Recording of Noise	Drilling	OIL/Contractor	Noise Quality Management Plan and

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
				work place noise level	with Personal Protective equipment  Preventive maintenance of machinery to be undertaken as per manufacturers schedule  Install sufficient engineering control (mufflers) to reduce noise level at source				Occupational Health & Safety Management Plan
		4.3	Emission of noise from operation of the rig	Temporary increase of ambient as well as work place noise level	All workers working near high noise generating equipment to be provided with Personal Protective equipment  Preventive maintenance of machinery to be undertaken as per manufacturers schedule	Site Inspection	Drilling of Wells	OIL/Contractor	Noise Quality Management Plan and Occupational Health & Safety Management Plan
		4.4	Abstraction of ground water for project usage	Depletion of ground water resources	Optimize use of water during drilling operations	Record Keeping and Auditing	Construction & Drilling	OIL/Contractor	None
		4.5	Noise from mud pump during preparation of drilling mud	Temporary increase of ambient & work place noise level	Preventive maintenance of machinery to be undertaken as per manufacturers schedule	Recording of Noise	Drilling of Wells	OIL/Contractor	Noise Quality Management Plan and Occupational Health & Safety Management





S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					All workers working near high noise generating equipment to be provided with Personal Protective equipment				Plan
		4.6	Accidental spillage of chemicals during preparation drill mud	Contamination of soil resulting loss of soil living organism	Manage spills of contaminants on soil	Records of spills	Drilling of Wells	OIL/Contractor	Spill Management plan
		4.7	Accidental spillage of chemicals during preparation drill mud	Potential impact on surface water quality and aquatic ecosystem	All spill to be contained so that it does not reach any surface water body or drainage channels	Records of spills	Drilling of Wells	OIL/Contractor	Surface water quality management plan
5.	Operation & maintenance of Vehicles	5.1	Emission of Noise from vehicles	Temporary Increase of noise level in areas abutting transport route	Preventive maintenance of vehicles to be undertaken as and when required	Maintenance Records	Construction & Drilling	OIL/Contractor	Noise quality management plan
		5.2	Emission of gaseous air pollutant from vehicles	Temporary deterioration air quality in areas abutting transport routes	Preventive maintenance of vehicles to be undertaken as and when required	Site Inspection/Records of repairs	Construction & Drilling	OIL/Contractor	Air quality management plan
		5.3	Spillage of fuels & lubricants from vehicles	Contamination of soil resulting loss of soil living organism	Adopt best practices e.g. use pumps and dispensing nozzle for transfer of fuel, use of drip trays. Etc.	Site Inspections/Audit	Construction & Drilling	OIL/Contractor	Spill Management plan
				Impact on surface water quality and	The drainage system on site to be provided with Sedimentation tank and Oil-	Site Inspection/Audits	Drilling	OIL/Contractor	Surface water quality management

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
				aquatic ecosystem	water Separator to prevent contamination especially oil and grease from being carried off by runoff.				plan and Spill Management plan
6.	Casing & cementing of well	6.1	Noise from machinery during preparation of cement slurry	Temporary increase of ambient noise level	Install sufficient engineering control on equipment and machineries (like mufflers in DG sets) to reduce noise and vibration emission levels at source, carry out proper maintenance and subject them to rigid noise and vibration control procedures.	Site Inspection	Drilling of Wells	OIL/Contractor	Noise quality management plan
		6.2	Loss of drilling mud and cement slurry during casing of well	Potential contamination of ground water aquifer	Proper engineering controls during cementing operation to prevent migration of drilling mud and cement slurry into ground water aquifer	Site Inspection	Drilling of Wells	OIL/Contractor	Ground water quality management plan
7.	Temporary storage, handling & disposal of process waste	7.1	Accidental spillage of process waste (unused cement slurry, return mud & drill cuttings) at the temporary storage site	Potential for contamination of soil and ground water	Proper engineering controls for the drilling and cementing operations;	Drilling and Decommissioning Phases	Drilling and Decommissioning Phases	OIL/Contractor	Ground water quality management plan
		7.2	Surface runoff from temporary storage site of drill cuttings & unused mud into surface water bodies	Impact on surface water quality and aquatic ecosystem	All Temporary waste storage area will have proper bunds to prevent any escape of contaminated runoff  Ensure that any runoff from such temporary storage area	Site Inspection and Record keeping	Drilling and Decommissioning Phases	OIL/Contractor	Surface water quality management plan and Spill Management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					are channelized into ETP				
		7.3	Accidental leakage/spillage of oils and lubricants and fuel from temporary storages	Contamination of soil resulting in loss of soil living organism	Dispose process waste and domestic waste as per regulation/ best practices  Dispose debris and waste in designated areas and as per plan to prevent degradation of land	Site Inspection	Construction &Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan
		7.4	Accidental leakage/spillage of oils and lubricants from temporary storages	Contamination of surface water resulting in deterioration of surface water quality and adverse impact on aquatic ecosystem	All chemical and fuel storage areas will have proper bunds so that contaminated run-off cannot escape into the storm-water drainage system.  The waste pits (waste water and drill cuttings) will be bounded and covered by tarpaulin sheet to prevent mixing of runoff water with waste water and leachate from waste pit and also reduce the volume of waste water.	Site Inspection	Construction &Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan
		7.5	Disposal/spillage of spent oils & lubricants into environmental media	Contamination of soil resulting loss of soil living organism  Contamination of surface water resulting deterioration of surface water quality and aquatic	Ensure recycling of spent oil & lubricant through authorized dealer	Site Inspection	Construction &Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
				ecosystem					
		7.6	Disposal of used battery & spent filters in environmental media	Potential for contamination of soil, ground water and surface water body	Ensure recycling of waste through authorized waste recycler	Site Inspection and Record Keeping	Construction & Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan
		7.7	Offsite disposal of metallic, packing, scrap	Localized visual impacts		Site Inspection and Record Keeping	Construction & Drilling	OIL/Contractor	Waste Management Plan
8.	Testing & Flaring of natural gas	8.1	Emission of air pollutants from flare stack at drill site	Temporary localized deterioration air quality (NOx, HC)	Proper engineering controls to ensure complete combustion of gas  Location of Flare stack to be chosen considering the sensitive receptors adjoining the site	Engineering Designs /Site inspections	Construction & Drilling	OIL S& E Team and Drilling team	Waste Management Plan
9.	Storage of materials (equipment, chemicals, fuel)	9.1	Accidental spillage during storage and handling of materials	Potential for contamination of soil & ground water	Impervious storage area, especially for fuel & lubricant, chemical, hazardous waste, etc.	Site Inspection	Construction & Drilling	OIL/Contractor	Spill Management plan
			Safety concerns for workers involved in handling of hazardous materials		Personal protective equipment to be provided to workers involving in handling of hazardous materials	Site Inspection	Construction & Drilling	OIL/Contractor	Health and Safety Plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
10.	Technical Emergencies	10.1	Probability of accidental leakage of gas/ liquid hydro-carbons due to failure of safety devices	Potential adverse impact on personnel, environment & assets	<p>Proper engineering controls to prevent leakage of sour gases</p> <p>Obtain an early warning of emergency conditions so as to prevent a negative impact on personnel, the environment, and assets</p> <p>Safeguard personnel to prevent injuries or loss of life by either protecting personnel from the hazard and/or evacuating them from the facilities</p> <p>Minimize the impact of such an event on the environment and the facilities by mitigating the potential for escalation and, where possible, containing the release</p> <p>Develop evacuation procedures to handle emergency situations.</p>	Site Inspection	Drilling	OIL/Contractor	Emergency Response Plan
11.	Dismantling of rig & associated machinerles	11.1	Emission of noise during dismantling of rig	Temporary deterioration of ambient noise quality resulting in discomfort	All noise generating activities will be restricted during day time	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Noise quality management plan
		11.2	Generation of waste during dismantling of rig	Temporary visual impacts	Storage of waste in designated areas only recyclable waste should be recycled through authorized	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Waste Management Plan



S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					water recycler				
		11.3	Disposal/spillage of spent oils & lubricants into environmental media	Contamination of soil resulting loss of soil living organism  Contamination of surface water resulting deterioration of surface water quality and aquatic ecosystem	Manage spills of contaminants on soil	Site Inspection and Record keeping	Well Decommissioning Phase	OIL/Contractor	Waste Management Plan
12.	Transportation of drilling facilities	12.1	Emission of gaseous air pollutant during transportation of drilling facilities	Temporary localized deterioration of air quality due to emission gaseous pollutants	Vehicle / equipment air emissions will be controlled by good practice procedures (such as turning off equipment when not in use); and  Vehicle / equipment exhausts observed emitting significant black smoke in their exhausts will be serviced/ replaced	Site Inspection and Record keeping	Well Decommissioning Phase	OIL/Contractor	Air quality management plan
		12.2	Fugitive emissions due to re-entrainment of dust during transport of drilling facilities	Temporary localized deterioration of air quality due to increase in SPM levels	Approach road to be sprinkled daily with water	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Air quality management plan
		12.3	Emission of noise during transport of drilling facilities	Temporary deterioration of noise quality	Restrict all noise generating operations, except drilling, to daytime	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Noise quality management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					Restriction on unnecessary use of horns by trucks and vehicle in settlement area				



## 6.0 Summary and Conclusion

The EMP has been made to assess the potential significant adverse environmental effects due to the proposed construction and drilling activities.

Mitigation measures have been proposed as part of EMP to minimize adverse environmental impacts, if any. Risk assessment includes Jet Fire and Vapour Cloud Explosion for blowout of wells. The existing Emergency Management Plan of OIL will be extended to this project, strengthened as necessary and implemented in the event of any emergency arising due to above mentioned risks.

The present impact assessment study indicates that the overall impact from the proposed project will be short to medium term, reversible, localised and are not expected to contribute significantly to the surrounding environment. Also, with the implementation of the pollution control and strengthen the existing environment management measures, these anticipated impacts due to proposed site preparation and drilling operation and decommissioning activities of the proposed project will be mitigated. Summary of impact significance without mitigation measures and with mitigation measures is presented at the table below.

### Summary of Impact Significance without and with Mitigation Measures

Impact	Impact significance without mitigation measures	Impact significance with mitigation measures
Aesthetic & visual	Moderate	Minor
Land Use	Negligible	-
Soil Quality	Moderate	Minor
Air Quality	Moderate	Minor
Noise Quality	Major	Moderate
Road & Traffic	Moderate	Minor
Surface Water Quality	Moderate	Moderate
Ground water resource	Minor	Minor
Ground Water Quality	Moderate	Minor
Terrestrial Ecology	Negligible	-
	Minor	Minor
	Major	Moderate
Aquatic Ecology	Moderate	Moderate
Livelihood & Income generation	Moderate	Moderate
Conflict with local people	Moderate	Moderate
Benefit to Local Enterprises	Positive	-
Employment Generation	Positive	-
Occupational health & safety	Moderate	Minor
Community health & safety	Moderate	Minor

OIL will also ensure that the environmental performances of all the activities are monitored throughout execution of the project during site preparation, drilling and decommissioning phases. Monitoring will be carried out for ambient air quality, stack emission, noise quality, quality of treated effluents, surface and groundwater qualities, waste generated and disposed etc. and verified that they meet the prescribed standards. OIL will continue to report environmental performance and submit monitoring reports regularly to statutory authorities.

The effective management system coupled with monitoring of environmental components and efforts for continual improvements will result in satisfactory environmental performance of the proposed oil and gas drilling and development project.

**THANKS YOU**

A handwritten signature in blue ink, consisting of a stylized 'S' followed by a checkmark-like flourish.

## Annexure - C



ऑयल इंडिया लिमिटेड  
( भारत सरकार का उद्यम )  
**Oil India Limited**  
(A Government of India Enterprise)

### Health Safety & Environment Department

P.O. DULIAJAN-786602,

ASSAM, INDIA

Phone : 0374-2800542

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Email: [safety@oilindia.in](mailto:safety@oilindia.in)

Ref. No.: S&E/E/21(B)/940

Date: 20.09.2023

To  
**The Member Secretary,  
Pollution Control Board, Assam,  
Bamunimaidam, Guwahati- 781021.**

**Sub:** Submission of Environmental Statement (Form-V) under Environment (Protection) Rules, 1986.

Sir,

With reference to the above subject, we are submitting herewith the Environmental Statement (Form-V) for the financial year ending 31<sup>st</sup> March, 2023 pertaining to the operations of Oil India Limited in the districts of Dibrugarh, Tinsukia, Sivsagar and Charaideo in Assam.

Thanking You,

Yours faithfully  
OIL INDIA LIMITED

(Ajit Chandra Haloi)  
Executive Director (HSE)  
**For Resident Chief Executive**

Encl: As above.

### **Copy:**

1. Regional Executive Engineer,  
Pollution Control Board Assam,  
Back Side of ASTC Bus Station,  
Chowkidinghee, Dibrugarh,  
PIN: 786001.
2. Executive Engineer,  
Regional Laboratory cum Office,  
Pollution Control Board Assam,  
Melachakar, Sivsagar,  
PIN: 785640.



# Summary of the Project

The project was initiated in 1998 and was completed in 2000. The project was funded by the National Science Foundation (NSF) and the Department of Energy (DOE).

# Project Objectives

The project objectives were to develop a new method for measuring the rate of change of the Earth's magnetic field.



## Project Description

The project was a collaborative effort between the University of California, Berkeley, and the National Science Foundation.

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**FORM - V**  
**(See Rule 14)**  
**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE**  
**31<sup>st</sup> MARCH, 2023**

**PART - A**

(i) **Name and address of the owner/occupier of the industry operation or process.**

OIL INDIA LIMITED  
P.O. DULIAJAN  
DIST. DIBRUGARH  
ASSAM -786602.

**Note:** Environmental Statement (Form - V) is pertaining to the operations of Oil India Limited in the districts of Dibrugarh, Tinsukia, Sivasagar and Charaideo in Assam.

(ii) **Industry category:** Red - Oil and gas extraction (on-shore extraction through drilling wells)

(iii) **Production capacity - Units**

OIL's production target is fixed as per the Memorandum of Understanding (MoU) with Ministry of Petroleum and Natural Gas, Govt. of India, which varies from year to year.

Production details during F.Y. 2022-23:

- **Crude Oil:** 3.114 MMT.
- **Natural Gas:** 2809.214 MMSCM
- **LPG:** 32,100 MT.

(iv) **Year of establishment:**

OIL INDIA LTD. was formed in 1961 as a joint venture with M/S. Burma Oil Company, UK and on 14<sup>th</sup> Oct. 1981, OIL became a fully owned Govt. of India Enterprise.

(v) **Date of last Environmental Statement submitted:** 20.09.2022.

**PART - B**

**WATER AND RAW MATERIAL CONSUMPTION**

(I) Water consumption m<sup>3</sup>/d:

S.No	Purpose	Water Consumption (m <sup>3</sup> / day)
1.	Process & Cooling	14473.7
2.	Domestic	16038.63
<b>TOTAL</b>		<b>30512.33</b>



Name of Products	Process water consumption per unit of product output	
	During F.Y. 2021-22	During F.Y. 2022-23
(1)	(2)	(3)
Hydrocarbon (Crude Oil, Natural Gas, LPG)	1.12 m <sup>3</sup> /MT (Approx.)	1 m <sup>3</sup> /MT (Approx.)

(II) Raw material consumption

*Name of raw materials	Name of products	Consumption of raw material per unit	
		During F.Y. 2021-22	During F.Y. 2022-23
No raw materials are used as Oil India Limited is engaged in Exploratory and development drilling activities & production of Crude Oil and Natural Gas. However, chemicals such as Bentonite are used for preparation of Water based drilling mud.			

**PART - C**

**POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT**

(Parameter as specified in the consent issued).

Pollutants	Quantity of Pollutants Discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	<b>NIL.</b> There is no discharge of pollutants from drilling locations and Production Installations. <ul style="list-style-type: none"> <li>Wastewater generated from drilling locations is treated in Effluent Treatment Plant (ETP) and reused back in the drilling operation.</li> <li>The formation water generated after separation from crude oil and</li> </ul>	<ul style="list-style-type: none"> <li>Quality of ETP treated water from the drilling locations is analyzed frequently. (Test report is enclosed as <b>Annexure - 1</b>).</li> <li>Quality of Formation water is analyzed frequently (Test report enclosed as <b>Annexure-</b></li> </ul>	No variation is observed.  All parameters of treated effluent and Formation water are within the permissible limits.



	treatment is pumped back to the underground formation (depth greater than 1600 m) through formation water disposal wells.	<b>II)</b>	
(b) Air	No major air pollutants are emitted from Oil & Gas exploratory and development drilling and production activities except Stack Gas emissions at drilling locations and Production Installations & Flaring at Oil Collecting Stations.	Stack Gas and Ambient Air Quality (AAQ) monitoring is carried out frequently at drilling locations and Production Installations (Test report enclosed as <b>Annexure- III)</b>	No variation is observed.  All parameters of Stack Gas emissions and Ambient Air are within the permissible limits.

**PART - D**  
**HAZARDOUS WASTES**

(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

Hazardous Wastes	Category of Hazardous Waste as per Schedule - I of HW Rules, 2016	Total Quantity generated	
		During F.Y. 2021-22	During F.Y. 2022-23
a) From process	S.No. 2.2 Sludge containing Oil	9943 MT	4671.52 MT
	S.No. 5.1 Used or Spent Oil	60 KL	208 KL
	S.No. 33.1 Empty barrels/containers/liners contaminated with hazardous chemicals/ wastes	41569 Nos.	26616 Nos.
	S.No. 33.2 Contaminated cotton rags or other cleaning materials	3.7 MT	6.19 MT
b) From pollution control facilities	S.No. 33.5 Chemical sludge from waste water treatment	2600 KL	120.84 KL



**PART - E**  
**SOLID WASTES**

Solid Wastes	Total Quantity	
	During F.Y. 2021-22	During F.Y. 2022-23
(a) From process		
Drill Cuttings	23,000 m <sup>3</sup> (Approx.)	27,000 m <sup>3</sup> (Approx.)
(b) From pollution control facilities	NIL	
(c)		
(1) Quantity recycled or re-utilized within the unit.	N/A	
(2) Sold	N/A	
(3) Disposed	N/A	

**PART - F**

**PLEASE SPECIFY THE CHARACTERIZATION (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.**

**(I) Hazardous Wastes:**

Name of the Hazardous Waste	Quantity generated during F.Y. 2022-23	Disposal Practices
a) Sludge containing Oil	4671.52 MT	Sent to Sludge Processing Plant for oil recovery followed by Bioremediation
b) Used or Spent Oil	208 KL	Stored in barrels under covered shed and sold to authorized recyclers through auction
c) Empty barrels/containers/liners contaminated with hazardous chemicals/wastes	26616 Nos	Sold to authorized recyclers through auction
d) Contaminated cotton rags or other cleaning materials	6.19 MT	Bioremediation
e) Chemical sludge from waste water treatment	120.84 KL	Disposed in HDPE lined pits





**(I) Solid Wastes:**

<b>Name of the Solid Waste</b>	<b>Quantity generated during F.Y. 2022-23</b>	<b>Disposal Practices</b>
a) Drill Cuttings	27,000 m <sup>3</sup> (Approx.)	Disposed in HDPE lined pits

**PART – G****IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION**

- Acoustic enclosures have been provided around all gensets to reduce noise levels.
- Recovery of drilling mud from drill cuttings by using a combination of Vertical Cutting Dryer (VCD) and a high-performance centrifuge.
- Wastewater generated from drilling locations is collected in HDPE lined pits, treated in Effluent Treatment Plant (ETP) with Reverse Osmosis unit and the treated effluent is reused back in the drilling operation.
- Formation water generated from Production Installations is treated in Effluent Treatment Plant (ETP) before disposal in the abandoned/ water disposal wells.
- Processing of oily sludge for recovery of Crude oil and further treatment of sludge through Bioremediation.
- Construction of central concrete pit for disposal of waste mud.
- Treatment of Biomedical waste through incinerator.
- Plantation of 50,000 saplings was carried out at 8 nos. of abandoned OIL well sites.

**PART – H****Additional measures/investment proposal for environmental protection, abatement of pollution, prevention of pollution.**

- MoU with District Administration, Tinsukia for treating the legacy waste of Tinsukia Municipality through the process of Biomining.
- Proposal for construction of Community Sewage Treatment Plant (STP) at Duliajan.
- MoU with Digboi Forest division, Assam for carrying out afforestation in 100 Ha of degraded forest area.
- MoU with IIT Guwahati to study the feasibility of using treated drill cutting as a building material.

**PART – I****ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT.**\*\*\*\*\*  
